CHAPTER 1

1 INTRODUCTION

Fairbanks Gold Mining, Inc. (FGMI) proposes developing an open-pit gold mine, known as the True North Project, located 15 miles north-northeast of downtown Fairbanks, Alaska. The mine would operate year around, handling approximately 30,000 tons of material per day, with approximately 10,000 tons being trucked daily to the Fort Knox Mill. With approximately 83 percent recovery, the mine would be expected to produce approximately 180,000 ounces of gold annually. Mining would be similar to a gravel pit or rock quarry; therefore, no milling or other process facilities would be present on the property.

Mining of the Hindenburg and East pits is projected to begin in the fourth quarter of 2000 and continue for approximately three years. Development costs are estimated at between $20 and $30 million. Estimated annual operating expenditures for labor, power, and support services would be approximately $14 million, most of which would be spent in Fairbanks and throughout Alaska. The operational work force would be approximately 100 to 110 people.

FGMI is a wholly owned subsidiary of Kinross Gold U.S.A., Inc., a Nevada corporation that in turn is a wholly owned subsidiary of Kinross Gold Corporation, a precious metals company with principal operating offices in Toronto. Kinross has mining operations in North and South America, Africa and Russia. In 1999, these Kinross properties produced in excess of 1 million ounces of gold and 300,000 ounces of silver. In the same year Kinross had revenues of $318 million.

1.1 PURPOSE OF AND NEED FOR ACTION

The purpose of the True North project is to supply approximately 10,000 tons of ore per day having a grade of .063 ounces per ton (opt) to the existing Fort Knox Mill for blending with ore from the Fort Knox Mine having a grade of .0245 opt. This will enable production of a blended ore having a grade of .0342 opt which will protect the Fort Knox Mine and Mill from earlier closure due to a reduction in the price of gold. At current gold prices, this will extend the life of the Fort Knox Mine and Mill for approximately three years without need for additional milling or tailings disposal infrastructure at either Fort Knox or True North.

To develop the True North project, FGMI needs to open two surface mine pits and construct additional roads, parts of which would be in wetland areas. FGMI has applied to the U. S. Army Corps of Engineers (COE) for a revision to its Clean Water Act (CWA § 404 Murray Creek 2 permit to construct an access road and to develop the Hindenburg and East pits in approximately 78 acres of wetlands, which are waters of the United States. The application has triggered an environmental review process by the COE as mandated by the National Environmental Policy Act (NEPA). Pursuant to NEPA, the COE needs to take action to assess the potential impacts of such development to determine if it is appropriate to issue the necessary permits. This document is being provided to assist the COE in that endeavor.

The first step in the process requires the COE to prepare an environmental assessment (EA) to determine whether issuing a Section 404 permit for the project would constitute a "major federal action substantially affecting the quality of the human environment." To assist the COE in making that determination, FGMI, as the applicant, has contracted with Terra Nord to develop this True North Project Environmental Evaluation Document. This document, which also responds to public comments on FGMI’s application, will be submitted to the COE in support of FGMI's Section 404 application as the COE develops its EA.

The purposes of this True North Project Environmental Evaluation Document are to:

- Gather in one place a resource baseline description
- Describe the proposed project
- Assess the significance of direct, indirect and cumulative impacts from project development
- Incorporate information in response to comments and questions by the public and the agencies

While this environmental evaluation document and response to public comments is not an EA in the technical sense, it does follow the format of such documents developed under NEPA because that format generally has widespread use and understanding among the agencies and the public.

A purpose of this environmental evaluation document is to determine whether issuing the Section 404 permit to FGMI would significantly affect the quality of the human environment. This document approaches the task of assessing the potential for significant impacts from project development in a three-step process. First, in Chapter 2 (Options Analysis), the project options that have been considered by FGMI in preparation for submitting its Section 404 application are discussed. The chapter identifies evaluation criteria and discusses how options were screened and evaluated, and how the applicant's preferred options were selected. Chapter 2 also describes the applicant's proposed project and addresses the no action alternative.

For the second step, Chapter 3 (Affected Environment) describes the environment of the project area as it exists today, *before* the project is developed. The description serves as baseline against which project development may be measured.

For the third and most important step, Chapter 4 (Environmental Consequences) describes the environmental consequences of project development, determines whether there would be impacts, and whether those impacts would be significant. If significant impacts are identified, it discusses whether the impacts could be mitigated. Figuratively, this document superimposes the project description

(Chapter 2) on the existing environment (Chapter 3) to determine whether significant impacts would occur (Chapter 4).

In developing this environmental evaluation document, several other documents germane to the True North project have been heavily relied on and are frequently referenced. These include several baseline studies and technical reports cited in the text as well as FGMI's *True North Project Description* (FGMI, 2000a), *True North Project Reclamation Plan* (FGMI, 2000b), *Application for Modification of Army Corps of Engineers (DA)permits* (FGMI, 2000c), *True North Project Application for Rights-of-Way, Millsite Lease ADL 672204, and Approval of Plan of Operations* (FGMI, 2000d), and the *Fort Knox Mine Environmental Assessment* (FGMI, 1993). Rather than reproduce substantial portions of several of these documents, this environmental evaluation document incorporates them by reference here and then summarizes the most important information in these documents and frequently refers readers to the seminal documents for more detailed information.

Because of the juxtaposition of the True North and Fort Knox mines, and because the True North project would process ore at the Fort Knox Mill, the two projects are closely linked. Therefore, this True North Project Environmental Evaluation Document incorporates by reference FGMI's Fort Knox Mine EA (FGMI, 1993). The Council on Environmental Quality's regulations implementing NEPA direct agencies to incorporate information by reference where, as here, doing so will, "…cut down on the bulk without impeding agency and public review of the action." 40 C.F.R. § 1502.21. By incorporating the Fort Knox EA by reference, this True North Project Environmental Evaluation Document can more clearly focus on those effects on Fort Knox arising solely as a consequence of the True North project, while at the same time affording the public a complete picture of the project's context.

1.2 PROJECT LOCATION AND LAND STATUS

The True North prospect is located in the Chatanika River watershed on the northwest flank of Pedro Dome, four miles west of Cleary Summit and approximately 15 miles north-northeast of Fairbanks (Figs. 1.2-1 and 1.2-2). More specifically, the millsite lease is located in portions of Sections 21, 27, 28, 29, 32 & 33, T3N, R1E, Fairbanks Meridian. The ridge lines drain into Murray Creek, a tributary of Dome Creek to the south; and Louis Creek, Whiskey Gulch, and Spruce Creek, tributaries of Little Eldorado Creek to the north.

Under 33 Code of Federal Regulations (CFR) Part 325, Appendix B, paragraph 7, the COE's permitting jurisdiction over the True North project is circumscribed by the access haul road and mine pits. The direct environmental impacts resulting from this development will occur in the area tributary to the road and pits. This area of potential direct impacts is referred to in this document as the "True North project area."

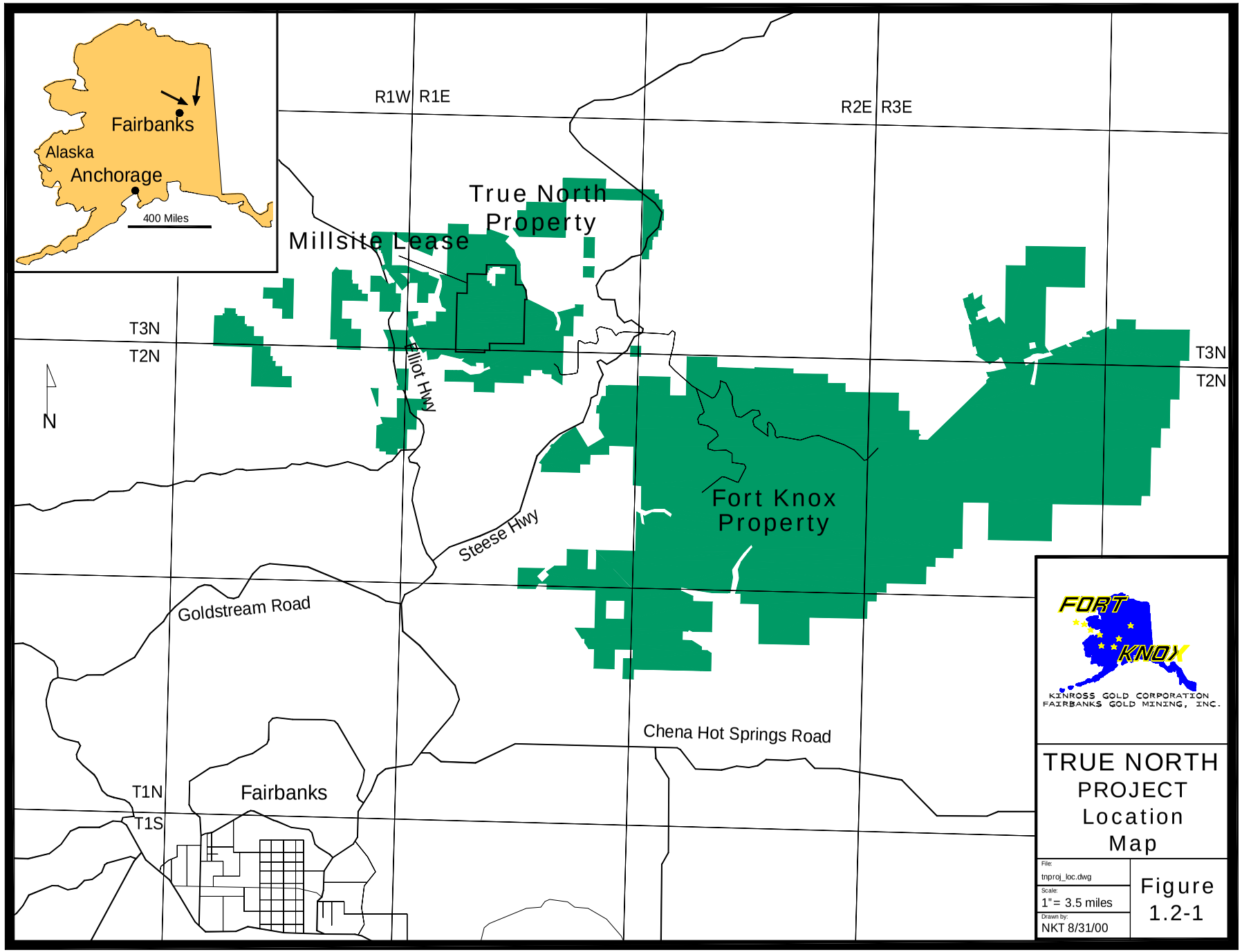
For the purposes of this environmental evaluation document, the True North project area encompasses an area of approximately 65 square miles (Fig. 1.2-2), roughly bounded on the south by Pedro Camp, on the east by the Fort Knox Mine, on the north by the Wolf and Ruby creek watersheds and the Chatanika River, and on the west by the Elliott Highway.

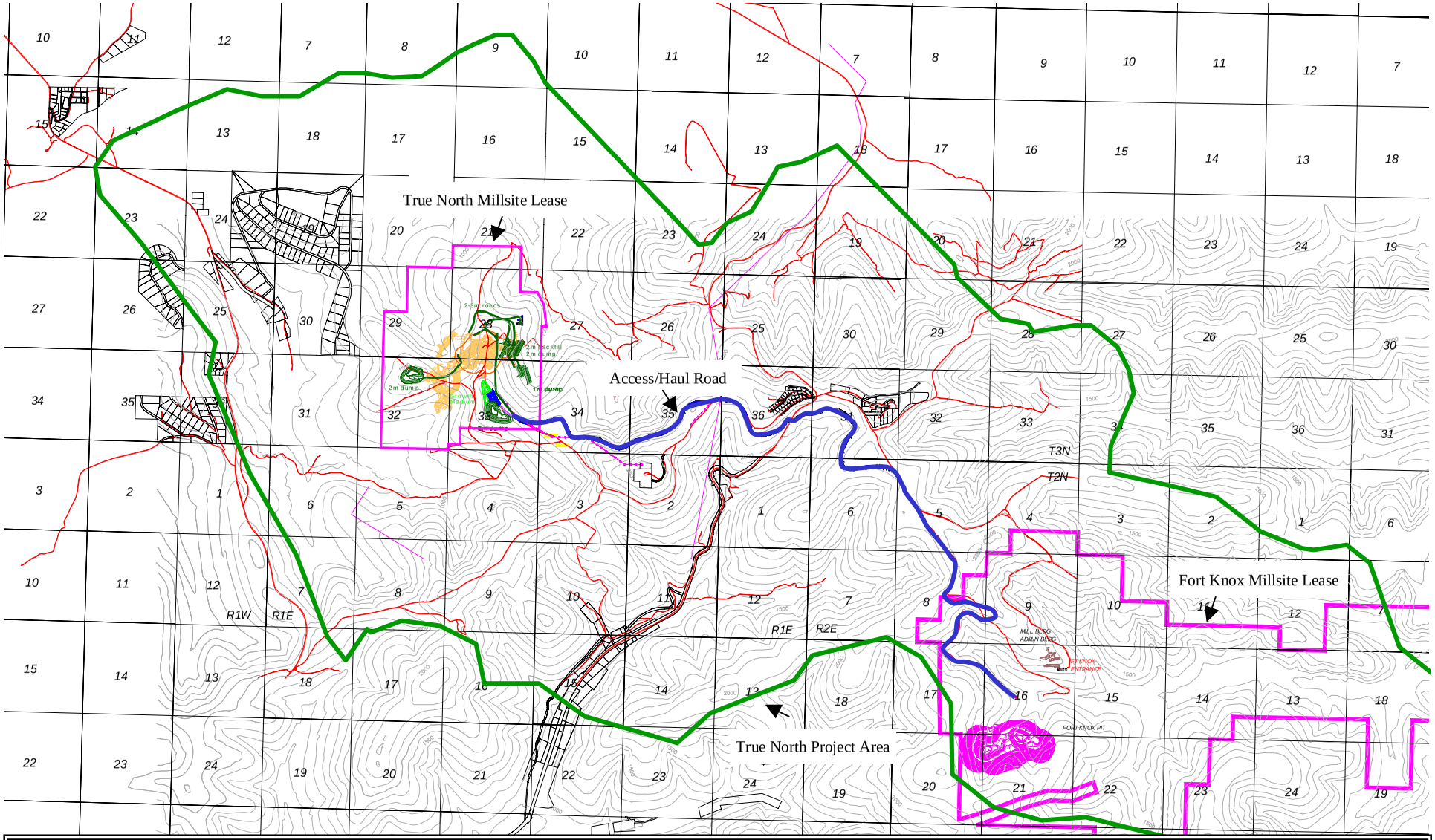
The Steese Highway, originally built by miners to access their mining claims, traverses the project area. The True North prospect itself presently is accessed via the Steese Highway to Cleary Summit, then 6.5 miles via a gravel road skirting the south side of Pedro Dome. The proposed mine site is approximately 6 miles northwest of the Fort Knox Mill. The True North property is contained within a combination of 388 state claims, 65.5 acres of federal patented land owned by FGMI, 401.2 acres of federal patented land under lease, and 4.68 acres of private real estate under lease. FGMI has applied for a Millsite Lease for development within a portion of the True North property. The area within the proposed millsite lease covers 2,096 acres with 79 state mining claims.

In the State's Tanana Basin Area Plan, the majority of the True North project area is in management Unit 1-J. Most of the project area falls under subclassification 1J2 - Cleary Summit - Pedro, which designates the primary surface land uses as minerals and public recreation. The secondary use is forestry. Land disposals and remote cabins are prohibited within 1J2. The minor Cleary Summit-Pedro area falls under subclassification 1J1, which designates the primary land use as settlement; secondary surface uses are public recreation and wildlife habitat. Remote cabins are prohibited.

The Fairbanks North Star Borough (FNSB) has zoned this area General Use. The True North project falls under two designations in the FNSB Comprehensive Plan, a combination of "High Mineral Potential," and "Reserve Area." The latter designation means uses such as mining, agriculture, recreation, hunting, trapping and fishing are all permitted until such time as a more specific highest and best use is identified.

Figure 1.2-3 presents a more detailed map of the area that shows the True North Mine site, the Fort Knox Mill site, and the area between.


Fairbanks
Alaska
Anchorage
400 Miles
R1W R1E
R2E R3E
True North Property
Millsite Lease
T3N
T2N
Elliot Hwy
N
Steese Hwy
Fort Knox Property
Goldstream Road
Chena Hot Springs Road
T1N
T1S
Fairbanks
FORT KNOX
KINROSS GOLD CORPORATION
FAIRBANKS GOLD MINING, INC.
TRUE NORTH PROJECT Location Map
File: tnproj_loc.dwg
Scale: 1"= 3.5 miles
Drawn by: NKT 8/31/00
Figure 1.2-1

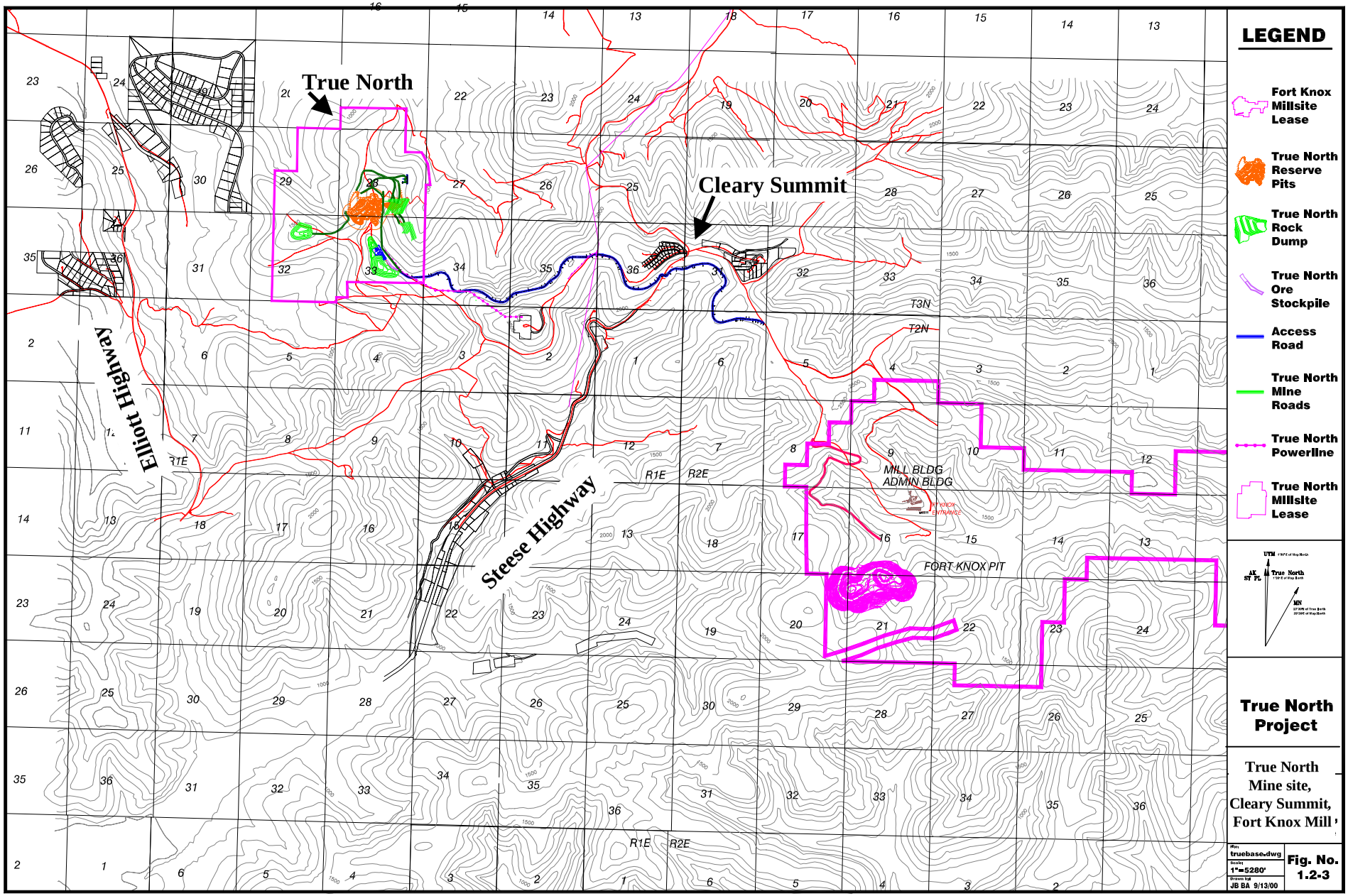


Fairbanks Gold Mining, Inc.

a subsidiary of Kinross Gold Corporation

TRUE NORTH PROJECT AREA

Figure 1.2-2


True North
Cleary Summit
Elliott Highway
Steese Highway
R1E
R2E
T3N
T2N
MILL BLDG
ADMIN BLDG
FORT KNOX PIT
LEGEND
Fort Knox Millsite Lease
True North Reserve Pits
True North Rock Dump
True North Ore Stockpile
Access Road
True North Mine Roads
True North Powerline
True North Millsite Lease
UTM
AK ST PL
True North
MN
True North Project
True North Mine site, Cleary Summit, Fort Knox Mill
truebase.dwg
1"=5280'
JB BA 9/13/00
Fig. No. 1.2-3

1.3 PROJECT HISTORY

1.3.1 AREA HISTORY

In 1901, Felix Pedro and Tom Gilmore discovered gold in a gravel bar near the mouth of Fish Creek; however, they decided not to stake the discovery because they considered it to be only a spring freshet deposit and not a valuable placer deposit (Parker, 1929). They continued prospecting in the area; and, on July 22, 1902, Pedro made a discovery on Pedro Creek starting a stampede into what became the Fairbanks District (Parker, 1929).

Pedro's discovery resulted in the establishment of Fairbanks as a major mining center (Cashen, 1971). By 1904 Fairbanks had become one of the principal gold producing districts in Alaska. Placer production peaked in 1909 (Parker, 1929) marking a transition from the relatively low grade, easily mined shallow placers to the high grade, underground "drift mines" (Parker, 1929). Between 1903 and 1930 an estimated 3.9 million ounces of placer gold and 100,000 ounces of lode gold were recovered from the district (Hill, 1933).

During the boom years of 1903 to 1905 (Cashen, 1971), towns sprang up on numerous creeks throughout the region (Wold, 1971). In 1908, 5,000 people lived in Fairbanks and another 5,000 lived in the surrounding area. By 1910, however, the Fairbanks population had dwindled to 1,500 (Cashen, 1971). Mining activity steadily declined from 1910 to 1915 (Anon., 1916) and continued to drop until the 1920's when dredges were introduced. The U.S. Smelting, Refining, and Mining Company, dba Fairbanks Exploration Company (F.E. Co.), operated 12 dredges in the Fairbanks Mining District in 1930, but by 1953 only six operating dredges remained (Cooley, 1954). Mining activity rose from the late 1920's until World War II when gold mining was suspended under the war moratorium. Activity remained low until the price of gold began to rise in the 1970's.

Lode gold mining did not start in the Fairbanks District until 1910 (Brooks, 1915) and it peaked in 1913 (Hill, 1933) when 10 mills were operating (Brooks and others, 1914). Lode mining declined during the World War I (Hill, 1933) and revived after construction of the Alaska Railroad in 1923 (Boswell, 1979). Total lode gold production from the Fairbanks District to 1960 was 239,247 ounces (Cobb, 1973).

In 1984 lode gold mineralization was discovered at what was to become the Fort Knox Mine. Between 1987 and 1991, a number of companies were involved for varying lengths of time in exploration and pre-development of the Fort Knox project. In January 1992, Amax Gold Inc. (AGI) acquired 96 percent ownership of Fairbanks Gold Ltd., a publicly held British Columbia corporation, and merged with Gilmore Gold Inc., a closely held Delaware corporation, into AGI. On March 31, 1992, AGI acquired the remaining 4 percent of Fairbanks Gold Ltd., thus obtaining full ownership of the Fort Knox project. AGI established FGMI as the operating company for the mine. On June 1, 1998, AGI and Kinross Gold Corporation merged. FGMI now is a wholly owned subsidiary of Kinross Gold Corporation.

Construction of the Fort Knox Mine began in the first quarter of 1995 and ore processing commenced November 1996. Commercial production was achieved March 1997 and gold production has remained at approximately 350,000 ounces of gold annually. The mine employs approximately 260 workers and generates a positive $107 million impact on the local economy (McDowell Group, 1999).

1.3.2 TRUE NORTH HISTORY

In 1924, the F.E. Co. began purchasing large tracts of land and constructing a water conveyance system, the Davidson Ditch, in preparation for dredging activities. The Davidson Ditch was an engineering milestone that consisted of approximately 105 linear miles of hydraulic ditch, flumes, and siphons.

Dredging in the drainages surrounding Pedro Dome began in 1924 on Cleary Creek when the Chatham Gold Dredging Company built a 1.5-cubic foot dredge. It was located at the mouth of Chatham Creek. In 1928, a 10-cubic foot dredge owned by F.E. Co. started mining on lower Cleary Creek and worked the Chatanika Flats. A third dredge started mining on the middle of Cleary Creek in 1929. This third dredge was a 6-cubic foot model owned by F.E. Co. After 18 years of successful operation, this dredge was moved to Little Eldorado Creek in 1947 and operated in the middle reaches of the creek. After eight years on Little Eldorado Creek, the dredge was moved to Dome Creek, where it currently sits. Dredging ended in Dome Creek in 1959. All F.E. Co. dredging operations were discontinued by 1964 (Higgs, 1996). Smaller scale placer mining operations have continued in Little Eldorado Creek and Dome Creek up to the present time.

The largest lode production from mines in the immediate True North area came from the Soo property, also known as the Spaulding, patented in June 1913. From 1912 to 1914, this mine produced $75,000 - $100,000 with the gold price at $20.67 per ounce.

Other lode mines and prospects in the True North area are the Newsboy, Sunrise, Robinson, Hidden Treasure, and Dome View. The Dome View was staked in 1917, on the north flank of Pedro Dome at the 2,000-foot elevation by the Wackwitz Brothers. The adit was 145-feet long and attained a depth of 100-feet. The vein was 12 to 40-inches wide, averaging 30-inches. The Newsboy mine is two miles north-northeast of Pedro Dome. The veins on this property were extensively stoped. The original shaft was 350-feet deep (Hill, 1933).

Poz and Contardi worked the Hindenburg Mine, located in the heart of the True North prospect, producing stibnite during the summer of 1916. A 25-foot shaft accessed their drifts. During WWI approximately 200 tons of high-grade stibnite ore were shipped.

John Rogash located the Ohio claims in the East Pit area in 1916 and three shallow shafts were dug on a quartz-stibnite vein striking east west (Hill, 1933).

In 1942, Mike Myntti drove a 140-foot crosscut and installed a stamp mill at the Hindenburg Mine, centrally located within the Hindenburg Pit. The mineralized zones are variably described as nearly flat lying or dipping 60 degrees SE (Haskins, 1981). During this same year Myntti worked on the Markovich property, near the south end of the proposed Hindenburg Pit, shipping 16-tons of ore containing 38% antimony, which was taken from small pods and stringers (Joesting, 1942).

The Chomco claims covering the northern portion of the True North prospect were purchased and worked in the late 1960's and early 1970's by Frank Mate and Richard Raines who discovered five mineralized zones using geochemical prospecting. Various lessees have continued excavation of the Hindenburg area and have explored the Ohio prospect and the south trench area.

In 1990, Amax Gold Incorporated (AGI) negotiated a mining lease on the Chomco claims. A 4-hole, 1,000-foot, drilling program was completed in 1991. These results prompted expansion of the property position by acquiring the Shepard claims in the winter of 1991 and by staking the open ground in Spruce Creek in the fall of 1991. An expanded exploration program in 1992 included soil sampling, a geophysical survey, trenching, and a 16-hole, 5,332-foot drilling program.

In 1993, AGI sold its interest in the True North property to La Teko Resources, Inc. Between 1993 and 1994 La Teko drilled 57,302-feet of exploration holes. In 1995 Newmont Exploration Limited (NEL) and La Teko formed a joint venture (65%: 35% respectively) to explore the property. Between 1995 and 1998 NEL completed a multi-faceted exploration program that included extensive soil

sampling, wetland delineation and cultural resource surveys, geophysical surveys, trenching, drilling, metallurgical testing, geological interpretation, computer modeling, and reserve definition.

In 1999, Kinross acquired La Teko and purchased Newmont's 65% interest in True North. A 14,000-foot drilling program was completed to further define reserves in the Hindenburg area and to define area hydrology, material characterization for acid rock drainage (ARD) potential, geotechnical survey, permafrost evaluation, and the mineralized area to be encompassed by the prospective upland mining lease for the True North project.

FGMI exploration crews are currently drilling to further define mineralization in the area. Exploration activities will continue during the mine life in order to locate possible areas for expansion and associated mine development. FGMI is optimistic that additional development will proceed as exploration drilling confirms additional reserves.